

SEMICONDUCTOR DEVICE HAVING ADDITIONAL FUNCTIONAL ELEMENT  
AND METHOD OF MANUFACTURING THEREOF

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ABSTRACT OF THE DISCLOSURE

10       A conventional semiconductor package can be used as  
it is, further an additional function such as a capacitor  
can be arranged at the closest position to a  
semiconductor element and the generation of switching  
noise can be reduced as low as possible under the  
conditions of increasing the processing speed, arranging  
15       the components highly intensively and reducing the  
operation voltage. One face of the capacitor (30) is  
connected to an electrode of the electrode forming face  
of the semiconductor element (10) and the other face of  
the capacitor is connected to the connection pads on the  
20       wiring board so that the capacitor can be interposed  
between the electrode forming face of the semiconductor  
element and the semiconductor mounting face of the wiring  
board (20), the other face of the capacitor is connected  
to the connection pads on the wiring board, and at the  
25       same time, flip-chip connection is conducted on the  
connection pads on the wiring board via the solder bumps  
(35) which have already been connected to the electrodes  
of the semiconductor element.